

## CLAIMS

What is claimed is:

1. A refuse collection system for mounting to a vehicle, comprising:

a refuse storage container divided into multiple internal compartments for receiving separate waste streams, each of said internal compartments having an opening to receive refuse;

a refuse-receiving trough having an opening into which a user may deposit refuse, said trough divided internally by at least one generally vertical barrier into a plurality of adjacent trough-shaped receptacles each communicating with a corresponding internal compartment, said trough having a floor and a front wall dividing said trough from said storage container, said front wall having an upper edge at the openings of said internal compartments;

a packer to displace refuse from said receptacles into said internal compartments, said packer comprising a unitary upper blade substantially spanning the width of said trough and a plurality of lower blades independently hinged to said upper blade, each lower blade corresponding to a receptacle for scooping refuse from said receptacle upon rotation of said lower blade; and

an actuation system comprising a plurality of actuators for independently rotating said lower blades to scoop refuse from said receptacle for elevation to the upper edge of said rear wall, and at least one actuator for driving said upper blade and said lower blades in a reciprocating movement for packing said refuse into said storage container.

2. A system as defined in claim 1 mounted to the chassis of a vehicle.
3. A system as defined in claim 1, wherein said waste-receiving trough comprises a tailgate assembly mounted to the rear of said storage container and said packer is mounted to move in a fore and aft direction.

4. A system as defined in claim 1 further comprising at least one linkage arm pivotably attached at a first end to one of said lower blades and pivotably attached at a second end to said trough so as to guide the movement of said lower blades.
5. A system as defined in claim 1 further comprising dual walls between each of said receptacles wherein each set of said dual walls are spaced so as to define a slot.
6. A system as defined in claim 5 further comprising at least one movable divider wherein the width of said movable divider is less than the width of the slot defined by the dual walls such that said movable divider can fit within said slot.
7. A refuse collection system for mounting to a vehicle, comprising:
  - a refuse storage container divided into multiple internal compartments for receiving separate waste streams, each of said internal compartments having an opening to receive refuse;
  - a refuse-receiving trough having an opening into which a user may deposit refuse, said trough divided internally by at least one generally vertical barrier into a plurality of adjacent trough-shaped receptacles each communicating with a corresponding internal compartment, said trough having a floor and a front wall dividing said trough from said storage container, said front wall having an upper edge at the openings of said internal compartments;
  - a packer to displace refuse from said receptacles into said internal compartments; and
  - a tunnel-like internal compartment having a ceiling such that the height of the tunnel-like internal compartment is lower than the height of the at least one other internal compartment.
8. A system as defined in claim 7 mounted to the chassis of a vehicle.
9. A system as defined in claim 7 wherein the tunnel-like internal compartment is defined by a side wall of the refuse storage container, a floor of the refuse storage container, a divider between the tunnel-like internal compartment and the adjacent internal compartment and the ceiling.
10. A system as defined in claim 9 wherein the divider is removable.

11. A system as defined in claim 7 wherein at least one of said internal compartments is in communication with a container for storing liquid waste.
12. A system as defined in claim 11 wherein the container is a sump.
13. A system as defined in claim 11 wherein the container is a collecting tray situated beneath said refuse storage container wherein said collecting tray has a length and a width substantially equal to the length and the width of said storage container.
14. A system as defined in claim 13 further comprising a transverse tray in communication with said collecting tray wherein a floor of said transverse tray is below a floor of said collecting tray.
15. A system as defined in claim 14 further comprising a frame to support the refuse storage container wherein said frame is comprised of at least one cross member and at least two lengthwise members situated substantially perpendicularly to said cross member.
16. A system as defined in claim 15 wherein the at least one cross member has a first aperture and the at least two lengthwise members such that the at least one cross member is in communication with the at least two lengthwise members.
17. A system as defined in claim 16 wherein the at least one cross member and the at least two lengthwise members have slits for distributing liquid sprayed through the first aperture into the collecting tray.
18. A system as defined in claim 7 further comprising a reciprocating conveyor to displace refuse from at least one of the internal compartments outside of the system.
19. A refuse collection system for mounting to a vehicle, comprising:
  - a refuse storage container divided into multiple internal compartments for receiving separate waste streams, each of said internal compartments having an opening to receive refuse wherein said storage container includes a forward extension;

a refuse-receiving trough having an opening into which a user may deposit refuse, said trough divided internally by at least one generally vertical barrier into a plurality of adjacent trough-shaped receptacles each communicating with a corresponding internal compartment, said trough having a floor and a front wall dividing said trough from said storage container, said front wall having an upper edge at the openings of said internal compartments;

a packer to displace refuse from said receptacles into said internal compartments;

movable barriers for displacing refuse from said internal compartments outside of said system; and

a ram attached to each said movable barrier wherein each ram is at least partly housed within said forward extension.

20. A system as defined in claim 19 mounted to the chassis of a vehicle.

21. A system as defined in claim 19 wherein the movable barrier has a face and an upper portion and the face of the upper portion of the movable barrier is generally parallel to a front wall of the refuse storage container.